Putting The Pieces Together…

TMDL, Tributary Strategies, 2 Year Milestones and WIPs

Understanding the Bay TMDL: Next Steps, Schedule and What it Means at the Local Level

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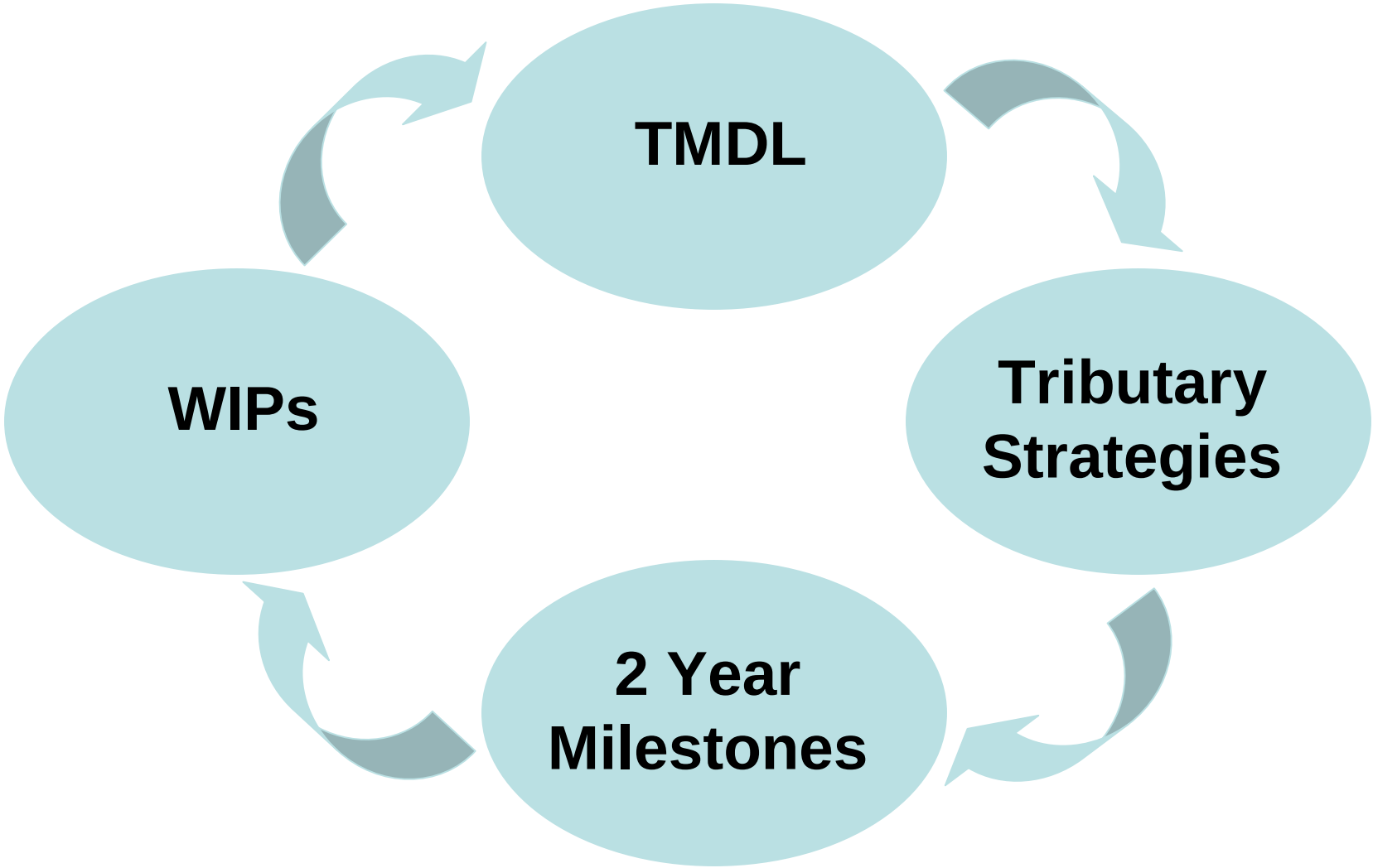
How It All Fits Together…



TMDL, Tributary Strategies, 2 Year Milestones and WIPs…

TMDL

Sets the total budget for nutrient and sediment pollution through a regulatory tool of the federal Clean Water Act

52 TMDLs in Maryland

- Nutrient Loading Goals
- Provide Allocations
  1. Geographic
  2. Sector

TMDL, Tributary Strategies, 2 Year Milestones and WIPs…

Tributary Strategies

Level of effort needed to reach the end goal

- Contains **strategies to achieve**, maintain, and monitor water quality goals.
- Implementation strategies for:
  1. point sources
  2. stormwater
  3. septic systems
  4. growth management
  5. agriculture, and
  6. air deposition

TMDL, Tributary Strategies, 2 Year Milestones and WIPs…

2 Year Milestones

A subset of the Tributary Strategies based on an accelerated rate of implementation

- 27 **nutrient reduction actions**,
- Focused on four major sectors:
  1. Agricultural Practices;
  2. Developed Lands;
  3. Natural Filter restoration on Public Land; and
  4. Natural Filter Restoration on Private Land

TMDL, Tributary Strategies, 2 Year Milestones and WIPs…

WIPs

Documentation and tool for the States, with local partners, to identify to EPA on how the TMDL will be achieved - ***"Reasonable Assurance"***

- Broken out into (2) Phases:
  - **Phase I**: Overall Statewide plan to achieve point and nonpoint source target loads and TMDL allocations.
  - **Phase 2**: Allocations at smaller geographic areas with local targets and controls

Why Are Maryland's 2 Year Milestones Important?

Milestones to a Clean Bay

- 2-year milestones will **ensure steady progress** toward **Maryland's overall goal** by 2020...

- **<u>Milestones are adaptive</u>** to **reflect latest scientific data** and updated water quality models...

Maryland's 2-year Milestones

Pollution Reduction Actions by End of 2011

Agriculture

Cover Crops	460,000 acres/year
Nutrient Management Plan Enforcement	100,000 acres
Soil Conservation and Water Quality Plans	257,049 acres
Manure Transport	10,000 tons/year
Heavy Use Poultry Area Concrete Pads	400 farms
Livestock Waste Structures	145 structures
Water Control Structures	200 structures
Dairy Manure Incorporation Technology	2,500 acres/year
Stream Protection with Fencing	3,000 acres
Poultry Manure Incorporation Technology	2,500 acres/year
Poultry Waste Structures	53 structures
Stream Protection without Fencing	3,000 acres
Runoff Control Systems	75 systems

Wastewater

Wastewater Treatment Plants ENR	39,000 fewer lbs. P 740,000 fewer lbs. N
Blue Plains BNR Upgrade	190,000 fewer lbs. N

Urban/Suburban

Stormwater Runoff Management Retrofits	90,000 acres
Required septic retrofits (inside Critical Area)	1,080 systems
Voluntary septic retrofits (non-Critical Area)	1,920 systems

Natural Filters - Private Land

Streamside Grass Buffers	7,000 acres
Streamside Forest Buffers	3,000 acres
Wetland Restoration	700 acres
Retire Highly Erodible Land	1,800 acres

Natural Filters - Public Land

Streamside Grass Buffers	1,000 acres
Streamside Forest Buffers	2,100 acres
Wetland Restoration	1,000 acres
Retire Highly Erodible Land	2,000 acres

Air

Maryland Healthy Air Act	305,882 less N

Maryland's 2-year Milestones

Maryland Sets Accelerated Nitrogen and Phosphorous Goals

- Overall Nitrogen Reduction by 2020:
  15.95 M lbs = (1.25 M lbs/yr)

  e.g. First two-year milestone is actually 3 years (2009-2011) = 1.25x3 = 3.75M

- Overall Phosphorous Reduction by 2020:
  840,000 lbs. = (64,615 lbs/yr)

Maryland's 2-year Milestones

Top 5 Practices for Nitrogen Reduction

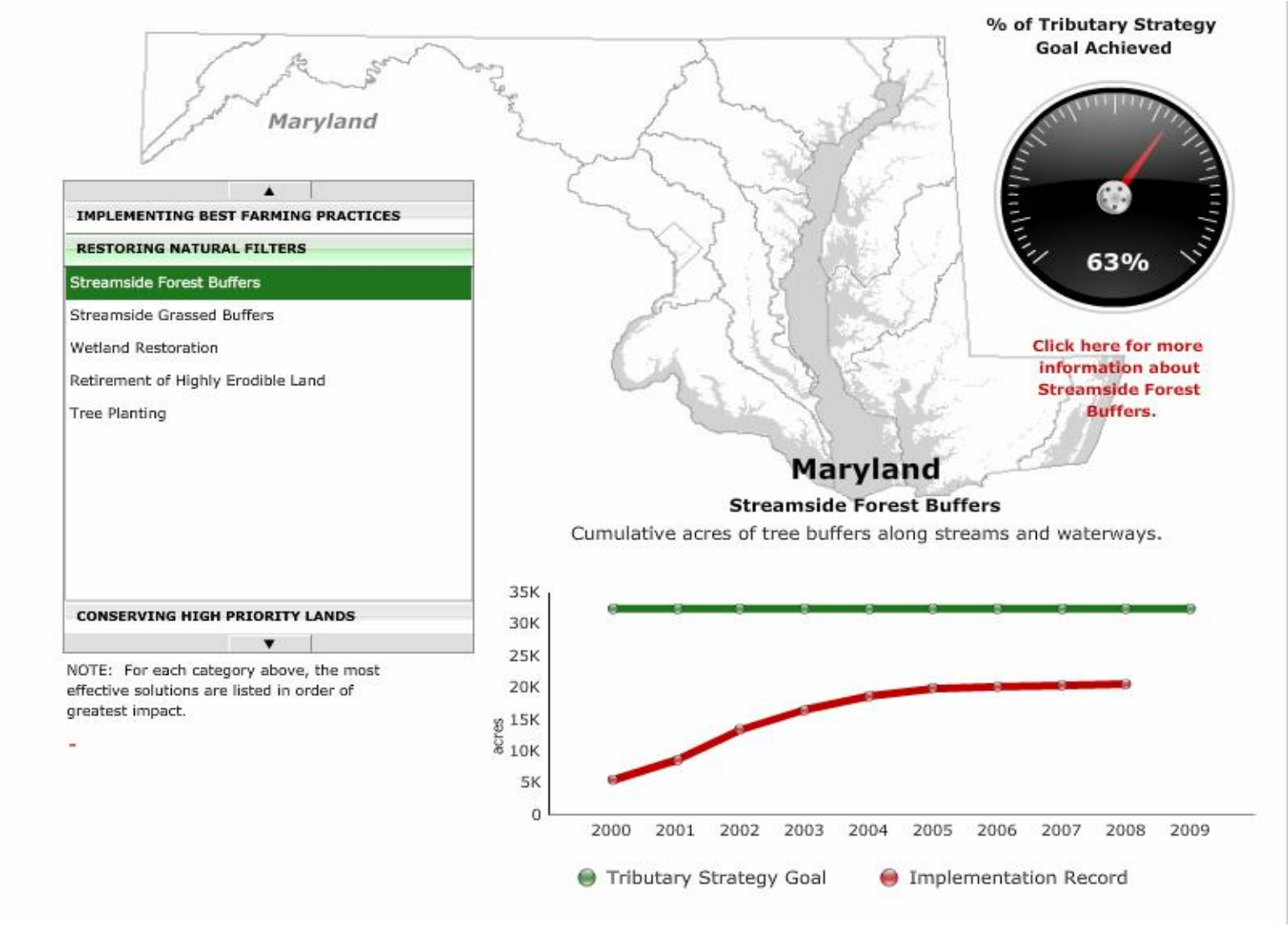
(over 3 years)

	Practice	lbs Reduced
1.	Cover Crops	1.37 M
2.	Waste Water	740,000
3.	CREP - Private Natural Filters	242,874
4.	Blue Plains	190,000
5.	Public Land Natural Filters	125,192

Potential Funding

- US Farm Bill
- Chesapeake Bay Program Funding
- MD Bay Restoration Fund
- Chesapeake and Atlantic 2010 Trust Fund
- Private funding through the Chesapeake Bay Funders network
- Chesapeake Bay Program Reauthorization Bill

Maryland's 2-year Milestones
Role of BayStat…



Maryland's 2-year Milestones Contingencies

Additional Reduction Options

Agriculture

Increase manure transport program activity exporting poultry litter out of the watershed.
Increase enrollment of dairy and poultry manure incorporation technology beyond 2,500 acres each, annually.
Implement precision agriculture on 100,000 acres.
Implement ammonia emissions reductions at poultry houses.

Urban/Suburban

Require all new and failing septic systems statewide to be replaced with best available technology.
Require 1:1 or 2:1 best available technology septic system offsets for all new septic systems statewide.
Require each acre of new development to be offset by retrofitting two acres of pre-1985 land for stormwater management.
Connect septic systems in targeted watersheds with high septic loads (e.g., Magothy, Severn and South Rivers) to WWTPs where it is cost-effective and where sprawl growth will not be encouraged.

Natural Filters

Substantially increase conversion of state-owned agricultural leases to forests or wetlands.
Increase implementation of streamside buffers on agricultural and suburban lands.

General

Implement Bay Bank and/or other effective nutrient and sediment cap and trade program.
Increase funding for the 2010 Trust Fund as needed.

Assessments of Future Management Actions

Revise nutrient reduction estimates for cover crops to reflect the latest scientific conclusions.
Conduct an independent review of Maryland's nutrient management planning program and consider options to improve effectiveness based on available science.
Conduct nutrient mass balance study to better target and implement BMPs.
Study the feasibility of extending the critical area protective provisions to non-tidal waters.
Evaluate the potential nutrient reduction for wastewater treatment plants using ENR from 4 mg/l limit on each plant to 3 mg/l and the potential sprawl implications of that action.
Create a State Development Plan, as required by Maryland law, to identify changes to State-level programs and policies that could significantly reduce sprawl.

Maryland's 2-year Milestones

Contingency Impacts…

If the 2011 Milestone is not achieved, contingency plans will be implemented…

Example

- Urban/suburban area measures:
  - o requirement for all new and replacement septic systems to be upgraded and/or requirement for offsets for new septic systems (eg. upgrade one existing system for every new system installed);
  - o requirement for offsets for new development (eg. retrofit 2 acres for every new acre developed).

Next Milestone Development…

- Even if the 2011 Milestone is achieved, the next milestone in 2013 will require additional nutrient control measures at a finer level of detail (i.e. geographic level).

- Next Milestones will build on current plans and contingencies and will include:
  1. Local government involvement;
  2. County level 2 year milestones; and
  3. Implementation actions by geographic scale.

What Does This Mean for Local Governments?

What Does This Mean for Local Governments?

We need your help!

- Milestones set the foundation for the Watershed Implementation Plans
- EPA expectation – local/State cooperation on Phase II WIPs
- Next set of Milestones needs to be locally driven
- Q and A session today designed to get your ideas
- Future individual meetings planned with local governments
- Consider including milestones in local planning

Thank You